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19. ABSTRACT (Continue on reverse if necessary and identify by block number) During 1989, 2,864 ovipaddles from 36 U.S. Air Force installations, Ft. Sam Houston, TX, and the San Antonio Metropolitan Health District, TX, were submitted to the Epidemiology Division, USAF School of Aerospace Medicine, Brooks Air Force Base (AFB), TX, for processing. Eleven installations were positive for <u>Aedes albopictus</u> . The collection of <u>Aedes albopictus</u> at Arnold AFB, TN, represents a new county record for that species. Ten installations were positive for <u>Aedes aegypti</u> . Eighteen installations were positive for <u>Aedes triseriatus</u> . Overall, there was an increase in the percentage of ovipaddles positive for <u>Aedes albopictus</u> from 2.7% in 1988 to 8.8% in 1989. There was increase in the percentage of <u>Aedes aegypti</u> -positive ovipaddles from 4.4% in 1988 to 5.2% in 1989.			
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Records of Aedes albopictus, Ae. aegypti and Ae. triseriatus
from the U.S. Air Force Ovitraping Program - 1989

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Ovitrappping to monitor container-breeding Aedes is conducted at numerous United States Air Force (USAF) installations in the eastern, midwestern, and southern United States. During 1988, 2,045 ovipaddles were collected by 37 organizations and 3 three new county records for Aedes albopictus (Skuse) were established (McHugh and Vande Berg 1989). The following summarizes the results of the USAF ovitrapping program during 1989.

Ovipaddles collected at USAF installations in the contiguous 48 states were shipped to the Medical Entomology Section, Epidemiology Division, USAF School of Aerospace Medicine (USAFSAM), Brooks Air Force Base (AFB), TX, for examination. Eggs present on the ovipaddles were tentatively identified as Aedes triseriatus (Say) or Aedes (Stegomyia) spp. Seven to 10 days post receipt, eggs were hatched in a 1:1 mixture of tap:distilled water and reared on liver powder to provide specimens for specific identification.

During 1989, 2,864 ovipaddles were submitted to USAFSAM by 36 USAF installations, Ft. Sam Houston, TX, and the San Antonio (TX) Metropolitan Health District (Table 1). Aedes albopictus-positive ovipaddles were submitted by 11 organizations. The collection of Ae. albopictus at Arnold AFB, was a new record for Coffee County, TN. Ovitrappping at Arnold AFB commenced in mid-May and continued through early October. The initial Ae. albopictus-positive ovipaddle at Arnold AFB was collected on August 3. The remaining positive ovipaddles at that base were collected in mid- to late September. A single ovipaddle with eggs identified as Ae. (Stegomyia) spp. was collected at Arnold AFB on October 3, the last collection day at the base. Arnold AFB is within the range of Aedes aegypti (Linn.) (Darsie and Ward 1981), but the yellow fever mosquito was not collected on the base in 1988 or 1989. The absence of Ae. aegypti suggests that the October 3 collection of Ae. (Stegomyia) spp. was Ae. albopictus, and indicates that the species was

active until at least early October in central Tennessee. During 1988, a single ovipaddle with Ae. (Stegomyia) spp. eggs was submitted by Arnold AFB (McHugh and Vande Berg 1989), but specimens could not be reared for specific identification. That collection suggests that Ae. albopictus may have been present in Coffee County as early as 1988. The collection of Ae. albopictus at England AFB, LA, was a new record for that base, but Ae. albopictus has been present in Rapides County since at least 1987 (Moore et al. 1989). The remaining 9 bases where Ae. albopictus was collected in 1989 had all reported this species previously. The average number of eggs on ovipaddles from which only Ae. albopictus were reared was 31.4.

Aedes aegypti was found by 10 organizations. Of these, Shaw AFB, SC, was the only base which had not recorded the presence of Ae. aegypti in the previous 3 years. Shaw AFB is within the range of Ae. aegypti, (Darsie and Ward 1981), and the failure to demonstrate that species is probably a reflection of the very modest surveillance effort at that base in recent years. The average number of eggs on ovipaddles from which only Ae. aegypti were reared was 24.1.

Both Ae. aegypti and Ae. albopictus were reared from 39 ovipaddles. Of these, 34 were submitted by the San Antonio Metropolitan Health District, 2 were from Lackland AFB, TX, and 1 each came from Little Rock AFB, AR, Carswell AFB, TX, and Randolph AFB, TX. For the 37 ovipaddles which were collected in Bexar County, TX, (all except the Carswell AFB and Little Rock AFB ovipaddles), the average number of eggs on these dual-species ovipaddles was 49.7.

Overall, there was an increase in the percentage of ovipaddles positive for Ae. albopictus from 2.7% in 1988 to 8.8% in 1989. Similarly, there was an increase in the percentage of Ae. aegypti-positive ovipaddles from 4.4% to

5.2% in 1989. In addition to an actual increase in the mosquito populations, these changes also may reflect the influence of other factors such as weather or the selection of sampling sites. For example, the San Antonio Metropolitan Health District discontinued sampling at several sites in 1989 which were rarely positive in 1988. The deletion of those sites may have resulted in an apparent, rather than real, increase in mosquito abundance.

Two ovipaddles with eggs tentatively identified as Ae. (Stegomyia) spp. were collected at McConnell AFB, KS. This base was outside the known ranges of both Ae. aegypti and Ae. albopictus. Unfortunately, specimens could not be reared for specific identification. Aedes (Stegomyia) spp. eggs were identified from an additional 18 organizations; all 18 previously had recorded Ae. albopictus or Ae. aegypti or were within the range of one or both of those species.

Aedes triseriatus was found at 18 installations; all were within the known range of this species. The average number of eggs on paddles from which only Ae. triseriatus were reared was 98.0.

Lackland AFB, Randolph AFB, and Ft. Sam Houston each submitted 1 ovipaddle from which Aedes epactius Dyar and Knab was reared .

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Table 1. Summary of ovipaddles processed at the Epidemiology Division, USAF School of Aerospace Medicine, during 1989.

Organization and state	County	Total ovipaddles	Positive ovitraps											
			<u>Aedes albopictus</u>		<u>Aedes aegypti</u>		<u>Aedes (Stegomyia)</u>		<u>Aedes triseriatus</u>					
			N	%	N	%	N	%	N	%				
Eaker AFB, AR	Mississippi	182	0	0.0	0	0.0	1	0.5	0	0.0	0	0.0		
Little Rock AFB, AR	Pulaski	137	43	31.4	1	0.7	4	2.9	7	5.1	0	0.0		
Dover AFB, DE	Kent	6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
Bolling AFB, DC	Prince Georges	36	0	0.0	0	0.0	0	0.0	0	0.0	4	11.1		
Tyndall AFB, FL	Bay	2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
Homestead AFB, FL	Dade	81	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
MacDill AFB, FL	Hillsborough	231	0	0.0	37	16.0	15	6.5	0	0.0	0	0.0		
Eglin AFB, FL	Okaloosa	21	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
Moody AFB, GA	Lowndes	47	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
Chanute AFB, IL	Champaign	5	0	0.0	0	0.0	0	0.0	0	0.0	2	40.0		
Scott AFB, IL	St. Clair	14	0	0.0	0	0.0	1	7.1	4	28.6	0	0.0		
Grissom, IN	Miami	14	0	0.0	0	0.0	0	0.0	0	0.0	1	7.1		
McConnell AFB, KS	Sedgwick	54	0	0.0	0	0.0	2	3.7	0	0.0	0	0.0		

Table 1. cont.

Organization and state	County	Total ovipaddles	Positive ovitraps							
			<u>albopictus</u>		<u>aegypti</u>		(Stegomyia)		<u>triseriatus</u>	
			N	%	N	%	N	%	N	%
Barksdale AFB, LA	Bossier	57	14	11.3	0	0.0	4	7.0	2	3.5
England AFB, LA	Rapides	133	15	11.3	0	0.0	4	3.0	12	9.0
Wurtsmith AFB, MI	Iosco	58	0	0.0	0	0.0	0	0.0	2	3.4
Whiteman AFB, MO	Johnson	49	0	0.0	0	0.0	1	2.0	5	10.2
Columbus AFB, MS	Lowndes	13	0	0.0	1	7.7	0	0.0	1	7.7
Offutt AFB, NE	Sarpy	5	0	0.0	0	0.0	0	0.0	0	0.0
Holloman AFB, NM	Otero	53	0	0.0	0	0.0	0	0.0	0	0.0
Pope AFB, NC	Cumberland	5	0	0.0	0	0.0	0	0.0	0	0.0
Seymour Johnson AFB, NC	Wayne	241	0	0.0	4	1.7	5	2.1	3	1.2
Vance AFB, OK	Garfield	15	0	0.0	0	0.0	0	0.0	0	0.0
Altus AFB, OK	Jackson	41	0	0.0	0	0.0	1	2.4	0	0.0
Tinker AFB, OK	Oklahoma	40	0	0.0	0	0.0	0	0.0	11	27.5

Table 1. cont.

Organization and state	County	Total ovipaddles	Positive ovitraps											
			<u>albopictus</u>		<u>aegypti</u>		<u>(Stegomyia)</u>		<u>triseriatus</u>					
			N	%	N	%	N	%	N	%				
Charleston AFB, SC	Berkeley	21	0	0.0	0	0.0	1	4.8	0	0.0	0	0.0		
Myrtle Beach AFB, SC	Horry	39	0	0.0	0	0.0	1	2.6	1	2.6	1	2.6		
Shaw AFB, SC	Sumter	20	0	0.0	1	5.0	0	0.0	0	0.0	0	0.0		
Arnold AFB, TN	Coffee	69	7	10.1	0	0.0	3	4.3	48	69.6				
San Antonio Metro														
Health Dist, TX	Bexar	548	129	23.5	83	15.1	43	7.8	2	0.4				
Brooks AF3, TX	Bexar	28	6	21.4	0	0.0	4	14.3	1	3.6				
Ft. Sam Houston, TX	Bexar	10	2	20.0	1	10.0	1	10.0	2	20.0				
Lackland AFB, TX	Bexar	237	11	4.6	7	3.0	12	5.1	2	0.8				
Kelly AFB, TX	Bexar	205	2	1.0	7	3.4	4	2.0	0	0.0				
Randolph AFB, TX	Bexar	75	7	9.3	6	8.0	3	4.0	0	0.0				
Reese AFB, TX	Lubbock	61	0	0.0	0	0.0	0	0.0	0	0.0				
Carswell AFB, TX	Tarrant	6	3	50.0	1	16.7	0	0.0	0	0.0				
Goodfellow AFB, TX	Tom Green	5	0	0.0	0	0.0	0	0.0	0	0.0				
Total		2864	239	8.3	149	5.2	110	3.8	110	3.8				